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Moving Forward with Electrical Line Relocation

Construction: September 2008-winter 2009
Cost: $17 million

The Alaskan Way Viaduct has stood along Seattle's waterfront since the 1950s. Each day 110,000 vehicles travel the two-mile long structure, which connects drivers to downtown and beyond. Yet, the 2001 Nisqually earthquake and daily wear-and-tear have taken their toll, and the viaduct is vulnerable to collapse in a major earthquake. In September 2008, the Washington State Department of Transportation, King County and the City of Seattle began relocating electrical lines attached to the lower deck of the viaduct. This project will prepare us for taking down the southern mile of the viaduct starting in 2009.

Relocating electrical lines is one of six Moving Forward projects that will repair or replace about half of the seismically vulnerable viaduct by 2012.

Overview

As the city has grown up around the viaduct, so has the web of utility lines that weave around and under the structure. WSDOT and Seattle City Light will relocate nearly one mile of electrical lines to an underground system just to the east of the viaduct between S. Massachusetts Street and Railroad Way S.

Additional work will be needed to relocate some of the remaining lines from Railroad Way S. to Union Street. The exact location, method and schedule for relocating these electrical lines will depend on the solution chosen for the viaduct's central waterfront section, located between the Battery Street Tunnel and S. King Street.

The Massachusetts Substation is located at the corner of S. Massachusetts Street and Colorado Avenue S.

What are electrical distribution and transmission lines?

Transmission lines deliver high-voltage electricity to and between substations. Distribution lines carry lower-voltage electricity to customers.

What is a substation?

A substation is an electrical facility that transforms high-voltage electricity to a lower voltage that can be distributed to customers.

Construction underway

Why are we pursuing this project?

Electrical lines must be relocated before work can begin to replace the viaduct between S. Holgate Street and S. King Street. Relocating the lines underground will also better protect the downtown power supply in an earthquake.

What does the project involve?

To relocate the electrical lines from the viaduct, crews will install new transmission and distribution lines in two parallel underground duct banks. First, crews will install electrical vaults, dig two trenches and insert the duct banks and conduit into the trenches. Crews will then pull the electrical cables through the system and connect each length vault to vault, before connecting the system to the existing lines that supply power to downtown Seattle.

What will construction be like?

Construction began in September 2008 and will be completed by winter 2009. During construction, drivers should expect occasional lane closures or traffic revisions on S. Atlantic Street, S. Royal Brougham Way, and S. Dearborn Street between First Avenue S. and Alaskan Way S. In addition, some parking near the sports stadiums will be removed in the area needed for construction.

Most construction work will happen Monday through Thursday between 7 a.m. and 5 p.m. However, crews may work intermittently on Fridays, Saturdays and Sundays to keep the project on schedule. Some night work will be required to avoid major traffic disruptions during high volume traffic periods. Notification will be distributed to adjacent businesses and residents prior to any night-time work.

Events

We are working closely with the Mariners, Seahawks and City of Seattle to keep traffic moving on game days as well as during other significant events in the downtown area.

Bicycles and pedestrians

Safe routes for bicyclists and pedestrians will be provided through the work zones during construction including detour routes where needed.

Can you expect power outages during construction?

We do not anticipate any power outages for this work as the electrical systems are redundant. Even if one line must be shut down temporarily, it would not affect the power supply.

What is a vault?

Vaults in this project refer to concrete boxes placed underground where lengths of electrical cable are spliced together.

Left: Construction crews will run electrical lines through underground conduit.

Right: Construction crews will use the parking lot adjacent to the viaduct between S. Atlantic Street and S. Royal Brougham Way as a staging area.

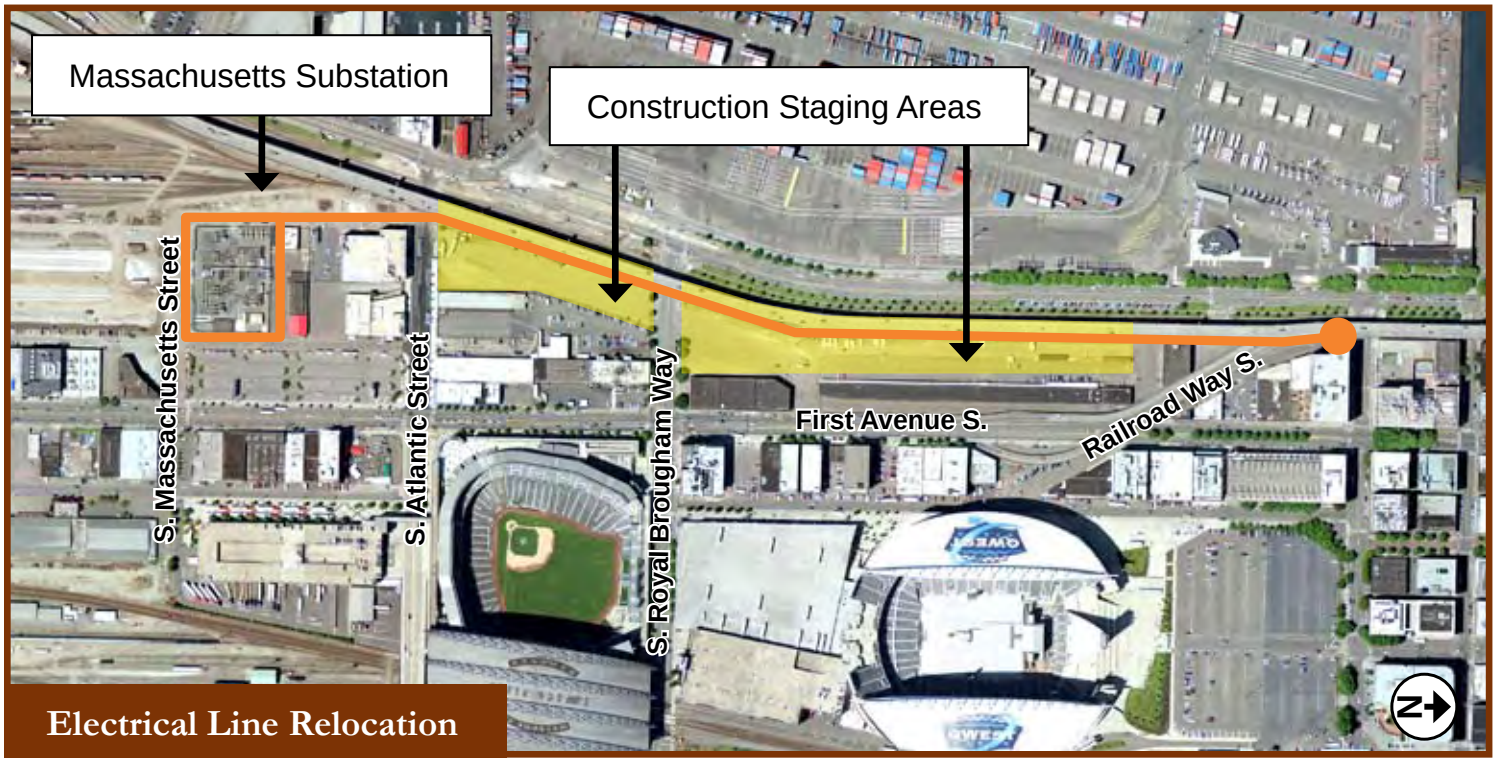
What about the rest of the viaduct?

This project is one of six projects at the north and south ends of the structure that will repair or replace about half of the viaduct by 2012.

- In spring 2008, crews finished stabilizing several viaduct columns near Pioneer Square.

- In addition to providing better protection to the city's power supply, electrical line relocation will prepare us for taking down and replacing the southern mile of the viaduct beginning in 2009.

Meanwhile, the governor, mayor and county executive are nearing a solution for the central waterfront based on input from the public and a committee of community stakeholders. All of the scenarios being considered take into account how the viaduct replacement will affect transportation throughout the region. Above-ground, below-ground and surface options are all being considered. WSDOT, King County and the City of Seattle are committed to taking down the central waterfront viaduct beginning in 2012.



Electrical lines between the Massachusetts Substation and Railroad Way S. will be placed in an underground trench and covered with concrete.

Related project

S. Holgate Street to S. King Street Viaduct Replacement Project

The southern mile of the viaduct – from S. Holgate Street to S. King Street – is vulnerable to earthquake damage due to numerous weak points in the bridge structure. In addition, its foundations are in unstable soil that could liquefy in an earthquake, causing the viaduct to collapse. Starting in 2009, it will be replaced with a side-by-side surface roadway instead of a double-deck structure like the one that exists today. The foundations of the new road will reach down into stable soil, making it more resistant to large earthquakes than the current structure. The south end viaduct replacement will be open to traffic in 2012. It will be compatible with whatever design is chosen for the central waterfront, be it an above-ground, below-ground or surface solution.

Looking north from above the intersection of Alaskan Way S. and S. Atlantic Street at the south end viaduct replacement. The majority of the new structure will be a surface road. There will be a bridge over S. Atlantic Street to make room for a new undercrossing that will allow trucks and other vehicles uninterrupted access to and from the Port of Seattle, even when a train is blocking the intersection.

For more information

Visit the Web site at www.AlaskanWayViaduct.org

Call the hotline at 1-800-AWV-LINE
Or Project Engineer John Lefotu: 206-768-5647

Send an e-mail to viaduct@wsdot.wa.gov

Send a letter to:
Alaskan Way Viaduct and Seawall Replacement Program
Washington State Department of Transportation
999 Third Avenue, Suite 2424
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